

REMARKS

In response to the Office Action mailed on October 17, 2003, claims 1 and 14 have been amended. Claims 1-23 are currently pending in the application, of which claims 6-13 and 17-23 have been withdrawn subject to the restriction requirement. Claims 1-5 and 14-16 are now active in this application, of which claims 1 and 14 are independent.

In view of the following Remarks, Applicant respectfully requests reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

Petition for Partial Withdrawal of Requirement for Restriction

Applicant believes that claims 1-5 (Group I) and claims 17 and 18 (Group C) define the same essential characteristics of the same embodiment shown in Fig. 3 of the present application. Also, it is believed that claims 14-16 (Group I) and claims 22 and 23 (Group C) define the same essential characteristics of the same embodiment shown in Fig. 7 of the present application.

Thus, Applicant believes that restriction should never be required between claims 1-5 and claims 17-18, and between claims 14-16 and claims 22 and 23. Since the Restriction Requirement has been made final, Applicant submit a Petition for Partial Withdrawal of Requirement for Restriction, attached hereafter.

Drawing Objection

In the Office Action, the drawings were objected to for failing to designate Fig. 1 by a legend such as --Prior Art--. This objection is respectfully traversed.

In this response, Fig. 1 has been amended to designate with --Prior Art--, as shown in the attached drawing sheets. Accordingly, Applicant respectfully requests withdrawal of the drawing objection.

Rejections Under 35 U.S.C. §102

Claims 1, 3 and 14 stand rejected under 35 U.S.C. §102(e) as being anticipated by U. S. Patent No. 6,445,119 issued to Mori, *et al.* ("Mori"). Applicants respectfully traverses this rejection for at least the following reasons.

In this response, claim 1 has been amended to more accurately recite the invention. Amended claim 1 further recites "side luminous peaks of said green color phosphor located outside of the luminous wavelength range of the maximum luminous peak are removed or minimized".

As shown in Fig. 2 of the present application, "Recently, the luminous spectrum of $\text{LaPO}_4\text{:Ce, Tb}$ which is mainly used at present has four peaks, for example, at wavelengths of 490 nm, 545 nm, 585 nm and 620 nm. Among those peaks, two side peaks (585 nm and 490 nm: a, b) beside the maximum luminous peak (545 nm) can increase the luminance. However, *they decrease the color reproductivity a lot*" (Specification, page 12, lines 8-12).

The present invention is provided to solve this problem *by removing or minimizing those two side peaks beside the maximum luminous peak*. More specially speaking, "in the green color phosphor of $\text{Zn}_2\text{SiO}_4\text{:Mn}^{2+}$ having Mn^{2+} as an activator, no side peak exists beside the maximum luminous peak which luminous spectrum is about 520 to 555 nm". So, when removing the side peak of the green color light (a and b of Fig. 2), the color reproductivity improves by increasing the color saturation" (Specification, page 12, line 22 to page 13, line 3). Thus, the present

invention is directed to “side luminous peaks of said green color phosphor located outside of the luminous wavelength range of the maximum luminous peak are removed or minimized”, as claimed.

In this regard, Mori merely discloses “light having an emission peak in a 500 to 550 nm wavelength range in a green spectrum region” but does not disclose “side luminous peaks of said green color phosphor located outside of the luminous wavelength range of the maximum luminous peak are removed or minimized”, as claimed. In fact, Mori does not recognize the problem of the two side peaks. Thus, Applicant respectfully requests that claim 1 is patentable over Mori. Claim 3 that are dependent from claim 1 would be also patentable at least for the same reason.

Independent claim 14 recites “wherein said blue phosphor has a luminous spectral distribution of *a line shape*”. This claimed feature is shown in amended Fig. 7 of the present application, in which “the spectrum of both side of the maximum luminous peak are formed in a line shape ...” (Specification, page 19, lines 3-4) which results in “a color near an original color can be obtained because the color saturation improves” (Specification, page 19, lines 22-23).

In this regard, Mori merely describes “light having an emission peak in 400 to 490 nm wavelength range in a blue spectral region” (column 5, lines 1-9 and 19-20), but does not disclose or suggest “wherein said blue phosphor has a luminous spectral distribution of *a line shape*”, as claimed. Thus, it is submitted that claim 14 is patentable over Mori.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §102(e) rejection of claims 1, 3 and 14.

Rejections Under 35 U.S.C. §103

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Mori in view of Korean Patent No. 2000021095 issued to Son, *et al.* (“Son”). Applicant respectfully traverses this rejection for at least the following reasons.

Claim 2 is dependent from claim 1. As previously mentioned, claim 1 is believed to be patentable over Mori. For example, Mori fails to disclose or suggest the claimed feature of “side luminous peaks of said green color phosphor located outside of the luminous wavelength range of the maximum luminous peak are removed or minimized”.

Son discloses a Zn silicate-based green fluorescent material doped with Mn oxide, that is used for plasma display panel (PDP). However, Son fails to disclose or suggest removing or minimizing the side luminous peaks of the green color phosphor, as recited in claim 1. Since none of the cited references discloses or suggests this claimed feature, the invention defined in claim 1 would not have been obviously derivable from the asserted combination.

Thus, it is respectfully submitted that claim 1 is patentable over Mori and Son. Claim 2 that is dependent from claim 1 would be also patentable at least for the same reason. Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of claim 2.

Claims 4, 5, 15 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mori in view of U. S. Patent No. 6,452,324 issued to Soules, *et al.* (“Soules”). This rejection is respectfully traversed.

The present application claims priority from the Korean Patent Application No. 2000-46359 which was filed on August 10, 2000. Soules was filed on August 30, 2000. Thus, the

priority date of the present application antedates the filing date of Soules, and Soules does not qualify as prior art under 35 U.S.C. §103(a). Since this rejection is based on a reference that is not prior art, Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of claims 4, 5, 15 and 16.

Other Matters

In this response, claims 1 and 14 have amended to correct the informalities therein.

CONCLUSION

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicant respectfully submits that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicant's undersigned representative at the number below to expedite prosecution. Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,



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ATTACHMENT: Replacement Figure Sheets for Fig. 1 and Fig. 7
Certified Translation of the Priority Documents
Statement Verifying Accuracy of the Translation
Petition for Partial Withdrawal of Requirement for Restriction

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